N.C. Department of Labor

Information Technology Plan

For 2014-2016 Biennium

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1 INTRODUCTION

1.1 PURPOSE

The purpose of this document is to provide agency data for the Information Technology Plan for the 2014-2016 Biennium to the North Carolina State Chief Information Officer (SCIO) as required by G.S. 147-33.72B. The statute mandates that each agency submit a technology plan to the SCIO by October 1 of each even-numbered year. The State Information Technology Plan (Plan) is required to cover a five-year time period. To properly inform the Plan, agency plans are also required to cover a five-year time period.

1.2 ROADMAP

Goal	Objective	Initiative	Description	Funding Mechanism
Goal 1 Client Computing Strategy	Objective 1.1 Refresh server infrastructure	Initiative 1.1.1	Complete Oracle server consolidation and system upgrades	Major expenditure - need to identify funding source
		Initiative 1.1.2	Migrate servers to ITS data centers	
	Objective 1.2 Provide hardware and software needed to achieve efficiency and increase productivity	Initiative 1.2.1	Conduct regular hardware refresh cycles	DOL IT Budget
Goal 2 Application Modernization and Evolution	Objective 2.1 Develop a plan to address common agency business needs	Initiative 2.1.1	Document detailed analyses of each bureau's business requirements	ITS Legislative funds for Business Analysts
		Initiative 2.1.2	Explore and determine technical delivery methods that are more responsive to business unit requirements	DOL IT budget
	Objective 2.2 Amusement Device Inspection System	Initiative 2.2.1	Develop and implement a formal Amusement Device inspection system	Elevator Bureau Receipts
	Objective 2.3 Wage and Hour Investigations System	Initiative 2.3.1	Conduct analysis of Wage and Hour Bureau business requirements	TBD
		Initiative 2.3.2	Develop and implement a	

Goal	Objective	Initiative	Description	Funding Mechanism
			new Wage and Hour case management system	
	Objective 2.4 Elevator Inspections System	Initiative 2.4.1	Develop and implement a formal Elevator inspections system	Elevator Bureau receipts
	Objective 2.5 Ensure efficient operation of OSHA Management Information System	Initiative 2.5.1	Integration of OSHA Express with Federal OIS	OSHA Funding
Goal 3 Enabling Technology	Objective 3.1 Agency Technology Modernization effort	Initiative 3.1.1	Expansion of new Enterprise Content Management (ECM) System	DOL IT Budget
		Initiative 3.1.2	Implementation of Business Process Management (BPM) technology	

2 NCDOL IT PLAN EXECUTIVE SUMMARY

The North Carolina Department of Labor's (NCDOL) Research and Information Technology (IT) Division is responsible for developing a strategic plan for the 2014-2016 Biennium. The strategic plan outlines the information technology goals, strategies and initiatives that will support the department's mission and values. The purpose of the plan is to outline the role of the Information Technology Division in achieving the department's vision of a safe workplace for all of the state's workers.

The two main challenges which NCDOL IT faces are the number of disparate components needed to support all NCDOL functions; and the large number of business units, each with a different mission requiring unique applications to do their jobs. Add to this the difficulty of competing for highly qualified IT professionals, and the challenge of supplying consistently good computer systems can be overwhelming.

For the 2014-2016 Biennium, NCDOL IT has devised three primary goals with the following objectives:

Goal 1. Client Computing Strategy

Objectives:
1) Refresh the NCDOL server infrastructure
2) Provide the hardware and software needed to achieve efficiency and increase productivity

Goal 2. Application Modernization and Evolution

Objectives:
1) Develop a plan to address common agency business needs
2) Create an Amusement Device Inspection System
3) Create a Wage and Hour Investigations System
4) Create an Elevator Inspections System
5) Ensure the efficient operation of the OSHA Management Information System

Goal 3: Enabling Technology

Objective:
1) Continue the agency technology modernization effort

The achievement of these goals will require a significant amount of funding. Some projects (e.g. the server refresh) will require NCDOL to see supplemental sources of funding. The projects will also require the extension of the department's small IT staff through the use of outside contractors as well as ITS technical assistance.

The end goal is to enhance efficiency, increase productivity and to provide excellent service to our internal and external customers.

3 GUIDANCE

3.1 SCIO GUIDANCE

IT Vision

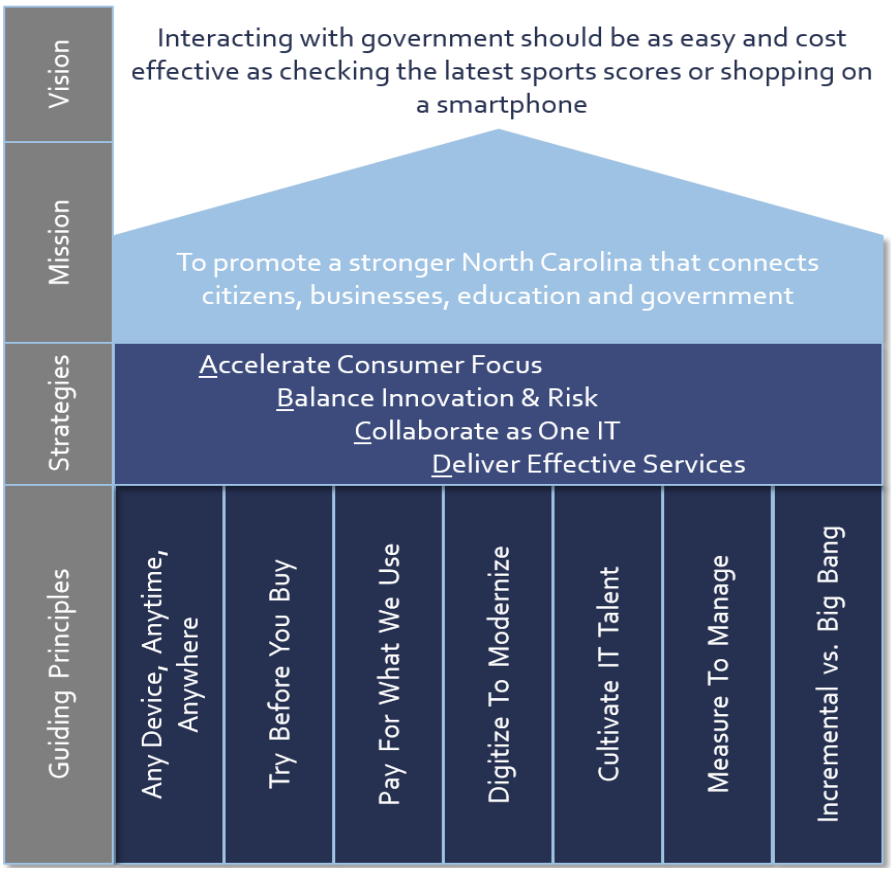
Making government services more accessible and efficient for all consumers is the foundation of the One IT strategy.

IT Mission

Promoting a stronger North Carolina that connects citizens, businesses, education, and government is the mission of IT.

IT Strategies

Strategies focus organizations to achieve complicated goals or objectives. With an eye to the future while sustaining current foundational requirements, the SCIO has adopted the "ABC" strategy to fix and modernize IT.



IT Vision, Mission, and Strategies

	Strategy	Intended to:
A.	Accelerate Consumer Focus	Embrace the consumerization of IT with a focus on the requirements of the consumer of technology
B.	Balance Innovation and Risk	Try newer technologies while managing enterprise risk
C.	Collaborate as One IT	Work as a team to accomplish our mission
D.	Deliver Effective Operations	Focus on achieving business outcomes through effective and efficient technology delivery

In addition to the seven guiding principles outlined above, the SCIO's Cabinet Unite IT Strategy focuses strongly on collaborative IT governance, big data and analytics (to include, but not limited to, work with GDAC and GIS), IT operations, and innovation.

The table below outlines the six IT business capabilities and five IT organizational capabilities highlighted in the Cabinet Unite IT Strategy.

Business Capabilities	Organizational Capabilities
Digital Focus	Collaborative IT Governance
Big Data and Analytics	Strategic Planning and Architecture
Enterprise Resource Planning	IT Program and Project Management
Application and Service Modernization	Innovation
Risk Management and Security	Talent Development and Management
IT Operations	

4 NCDOL VISION, MISSION, VALUES AND GOALS

4.1 VISION

We strive to make North Carolina a safe and healthy place to live and work. The N.C. Department of Labor serves the workplace. Its programs, as well as the information it makes available, help industry managers, small business owners, manufacturing employees and all those who work in North Carolina perform their work safely.

4.2 MISSION

The N.C. Department of Labor is responsible for promoting the health, safety and general well being of all North Carolina workers. The laws and programs the department administers affect every worker – and virtually every person – in the State. The Labor Commissioner heads the department and serves as a member of the Council of State. The Commissioner has broad regulatory and enforcement powers to carry out the department's duties and responsibilities. The department divisions and bureaus carry out the principal regulatory enforcement and informational programs:

- Occupational Safety and Health Division
- Boiler Safety Bureau
- Elevator and Amusement Device Bureau
- Employment Discrimination Bureau
- Mine and Quarry Bureau
- Wage and Hour Bureau

4.3 VALUES

The mission of the N.C. Department of Labor is to foster a safe, healthy, fair and productive North Carolina by:

-- Providing responsive, effective and efficient services

-- Providing and encouraging quality education and training

-- Administering consistently and fairly our regulatory mandates

-- Enhancing public confidence in the N.C. Department of Labor.

4.4 AGENCY GOALS

The key business drivers for DOL's initiatives are:

1. Business Unit Requirements - the Information Technology Division provides the technology and support needed to complete the department's mission. The end goal is to enhance efficiency, increase productivity and to provide excellent service to our internal and external customers.
2. Legislative Mandates – NCDOL is governed by a variety of legislative mandates at the federal and state level:
    - Occupational Safety and Health Act
    - National Apprenticeship Act
    - Elevator Safety Act
    - Wage and Hour Act
    - Migrant Housing Act
    - Mine Safety and Health Act
    - Uniform Boiler and Pressure Vessel Act
    - Amusement Device Safety Act
    - Retaliatory Employment Discrimination Act
    - Passenger Tramway Safety Act

All of these mandates require that the department maintain accurate databases and records related to licensing, inspection and investigations.

5 NCDOL IT VISION, MISSION, AND VALUES

5.1 IT VISION

The Information Technology Division provides the technology and support needed to achieve the N.C. Department of Labor's mission. The end goal is to enhance efficiency, increase productivity and to provide excellent service to our internal and external customers.

5.2 IT MISSION

The Information Technology Division provides the N.C. Department of Labor with information technology services for the analysis, design, engineering, and acquisition of all hardware and software, while providing daily service and support through installation, operation and maintenance of computers, servers, printers, local area networks and wide area networks. The Division provides database design and administration support to application software, server operating systems software, and hardware. It also supports a federal-level information system which is used by the Occupational Safety and Health Division.

5.3 IT VALUES

The Information Technology Division operates in alignment with the following values:

Professionalism - Professional staff equipped with the knowledge and resources to perform their jobs

Customer Service - Excellent customer service that is responsive, timely and accountable

Innovation - Up-to-date IT solutions, including processes, policies and procedures

Partnership - Cooperation and collaboration between IT and business units

6 NCDOL IT GOALS, OBJECTIVES AND INITIATIVES

6.1 GOAL 1: CLIENT COMPUTING STRATEGY

The safety mission of the department to protect all workers in N.C. demands a continuous and consistent electronic processing capability. All DOL employees must be able to access vital information internally and externally.

6.1.1 Objective 1 – Refresh server infrastructure

NCDOL has reached a point where it is time for replacement of its server infrastructure. The current system was installed in 2010 and is now four years old. Over time, the servers have seen a tremendous growth in utilizing their capabilities. It is necessary to plan for replacement as the servers age out.

6.1.1.1 *Initiative 1 – Complete Oracle server consolidation and system upgrades by February 2015*

The NCDOL environment has grown tremendously over the last three years because of the addition of multiple new platforms, including OnBase, Oracle Apex and BI Publisher and OSHA Express, which necessitated MS SQL Server and Citrix. It will be necessary to finish designing, implementing and debugging the infrastructure before moving it to an ITS data center.

6.1.1.2 *Initiative 2 - Migrate servers to ITS data centers by September 2015*

S.B. 744 requires that "any equipment purchased to provide new data center capabilities for State agencies shall be installed in Office of Information Technology Services data centers." NCDOL will comply with this mandate, though this option will require the department to incur a significant expense. An alternative funding source will need to be identified to cover this expense.

6.1.2 Objective 1 - Provide hardware and software needed to achieve efficiency and increase productivity

The IT Division will continue to seek new, innovative approaches to enable business units to carry out their functions in manners that are efficient and productive. These approaches include identification of equipment and applications that address current business needs.

6.1.2.1 *Initiative 1 – Conduct regular hardware refresh cycles*

NCDOL IT will continue efforts to provide regular refresh cycles (3-4 years) of desktop/laptop and other mobile equipment as the budget will permit.

6.2 GOAL 2: APPLICATION MODERNIZATION AND EVOLUTION

During the last biennium, a high-level strategic analysis was accomplished which yielded valuable information to drive the IT plan for FY14-16. The information derived from this analysis enabled the IT Division to gain a better high-level understanding of agency business needs. The assessment assisted in identifying gaps in support by the current technologies in place.

6.2.1 Objective 1 - Develop a plan to address common agency business needs by April 2015

From the high-level analysis previously accomplished, it was determined that each bureau has unique requirements, but there are functions that are similar in nature and have common technical solutions. For example, several bureaus have safety and health inspections related to specific functions, but have that as a common mission. Several have case management requirements requiring collaboration and work flow processes as a standard function which could be automated with proper software tools.

6.2.1.1 *Initiative 1 - Document detailed analyses of each bureau's business requirements*

Previous practices have not addressed nor documented business unit requirements in adequate detail during the initiation phase to enable a successful implementation. A lack of adequate requirements definition has often resulted in project scope creep with resulting additional commitments of resource time and costs. Improved requirements gathering will lead to a more structured and standard method for planning applications development and/or acquisitions in the future. The ultimate goal is to enable delivery of complete solutions on-time and cost effectively.

6.2.1.2 *Initiative 2 - Explore and determine technical delivery methods that are more responsive to business unit requirements*

The growing demands for applications support make internal development as the sole solution impractical, if not impossible. Software as a Service (SaaS) and commercial off-the-shelf (COTS) options must always be considered if available and/or cost-effective. There may still be some cases where internal development is appropriate, and for those situations, more efficient applications tool sets will be explored and implemented. To meet the challenge of developing a wide array of disparate systems, NCDOL IT has adopted Hyland OnBase, which can be used to develop both production workflows and case management systems. The goal is to develop as many applications as possible with the same core platform, therefore minimizing development costs and concentrating on a smaller set of skills.

6.2.2 Objective 2 – Amusement Device Inspection System

The Elevator and Amusement Device Bureau currently has no formal software system to support its Amusement operations. There is no cohesive system in place. The tools used for tracking these inspections are spreadsheets to track field inspections; a Microsoft Access back-office system into which the inspection results are entered manually, and which runs reports; and a manual web form to kick off the process. However, it only supplies approximately 30% of the overall bureau reports needed. It does not address payments, ALN (Advance Location Notice) assignment, or inspection results processing. Not only is the inefficiency glaring, but the potential for losing data means a huge potential liability for the Department of Labor. This "system" must be replaced as soon as possible.

6.2.2.1 *Initiative 1 – Develop and Implement a formal Amusement Device Inspection System by December 2015*

Using OnBase, a system will be developed to schedule and process amusement device inspections. Long term business value expected from this project includes:

1. Improved safety that results in fewer injuries and fatalities
2. More effective inspection techniques due to access to better data, as measured by better ability to find defects and, in some cases, less time
3. Information sharing (two-way) with other states to improve safety
4. The system will provide important information for use in training.

6.2.3 Objective 3 – Wage and Hour Investigations System

The current Wage and Hour system consists of three parts roughly cobbled together:

- An intake module built in Coldfusion/Oracle by an IT staff person (now retired)
- A very complex spreadsheet used to process complaints, calculate fees/penalties and generate documents, built over a number of years on a volunteer basis by a retired NASA engineer
- Electronic document storage in OnBase

The weak link here is the spreadsheet in the middle, which is not documented, and can therefore not be modified or adapted. It is also extremely difficult to learn and to use, causing significant training burdens and ongoing morale issues for WHR. Eventually, the spreadsheet could break or become obsolete (unable to run on the latest version of Windows, for instance), at which point the data will have to be salvaged.

6.2.3.1 *Initiative 1- Conduct an analysis of Wage and Hour Bureau business requirements by June 2015*

NCDOL IT has begun discussions with the ITS Business Analyst Team to engage them to conduct a business analysis of the Wage and Hour Bureau's processes and IT requirements.

6.2.3.2 *Initiative 2 – Develop and implement a new Wage and Hour Bureau case management system by June 2016*

Using OnBase, a system will be developed for Wage and Hour case management. The benefits of this new system will include:

- Increased efficiency of tasks and data reporting accuracy
- Improved quality of work and customer service
- Increased employee morale

6.2.4 Objective 4 – Elevator Inspections System

The Elevator and Amusement Device Bureau currently uses a custom software system to support its Elevator operations. The current system is limited in function, and interfaces with other bureaus are primitive and labor intensive. There is a Coldfusion/Oracle system in place, which talks to a field application built in Access with Visual Basic. It has glaring deficiencies which were noted in the most recent audit by the State Auditor, namely: violations are not tracked by elevator, and there is no mechanism to enforce abatement of violations. This is a huge liability for the NCDOL. Additionally, the system is not documented, and the upload/download mechanism between the back office system and the field application routinely breaks, causing lost time for elevator inspectors and significant support commitments for the NCDOL PC Support and Apps Teams.

6.2.4.1 *Initiative 1 – Develop and implement a formal Elevator Inspection System by December 2016*

The Bureau has decided to replace the existing Elevator System with a more full-featured one in order to improve the effectiveness of the Bureau and support the expected growth in number of elevator inspections without increasing the number of inspectors and support staff. OnBase will be used to create the new elevator inspection system.

Long term business value expected from this project includes:

1. Improved safety that results in fewer injuries and fatalities
2. More effective inspection techniques due to access to better data, as measured by better ability to find defects and, in some cases, less time
3. Information sharing (two-way) with other states to improve safety
4. The system will provide important information for use in training.

6.2.5 Objective 5 - Ensure efficient operation of OSHA Management Information System

In June 2014, NCDOL implemented OSHA Express to replace the NCR system. (The system was twenty-five years old and running on hardware that is no longer vendor supported.) The federal OSHA IMIS system is finally being replaced by a new web-based OSHA Information System (OIS). NCDOL, like several other states that have implemented OSHA Express, must now develop a way to transfer data between OSHA Express and OIS.

6.2.5.1 *Initiative 1 - Integration of OSHA Express with Federal OIS*

This is a large challenge, both for technical and management reasons, but it is mandatory. All of the work to build this interface could be performed by ACS (OSHA Express developer) and the federal contractor building OIS. The resulting product would be simply sold to NCDOL and installed. NCDOL IT does not wish to become involved in the technical or management aspects of the development of this interface. The timetable for this project is yet to be determined; it is dependent upon negotiations between ACS and federal OSHA.

6.3 GOAL 3: ENABLING TECHNOLOGY

NCDOL wishes to develop/acquire and implement enhanced and more efficient application tool sets, to include new methodologies resulting in faster delivery to the business units.

6.3.1 **Objective 1** - Agency Technology Modernization effort

The new ECM/BPM system, OnBase, allows electronic collaboration capability in addition to traditional document management capability. The goal is to focus resources on mastering OnBase to develop the systems outlined under Goal 2. Taking this approach would lead to the implementation of these systems at a lower cost, without the need for additional procurement. The development efforts would likely still need to be managed as projects for ITS EPMO, but at a lower level of oversight, leading to a more efficient process overall for delivering mission-critical systems needed by NCDOL to move into the future.

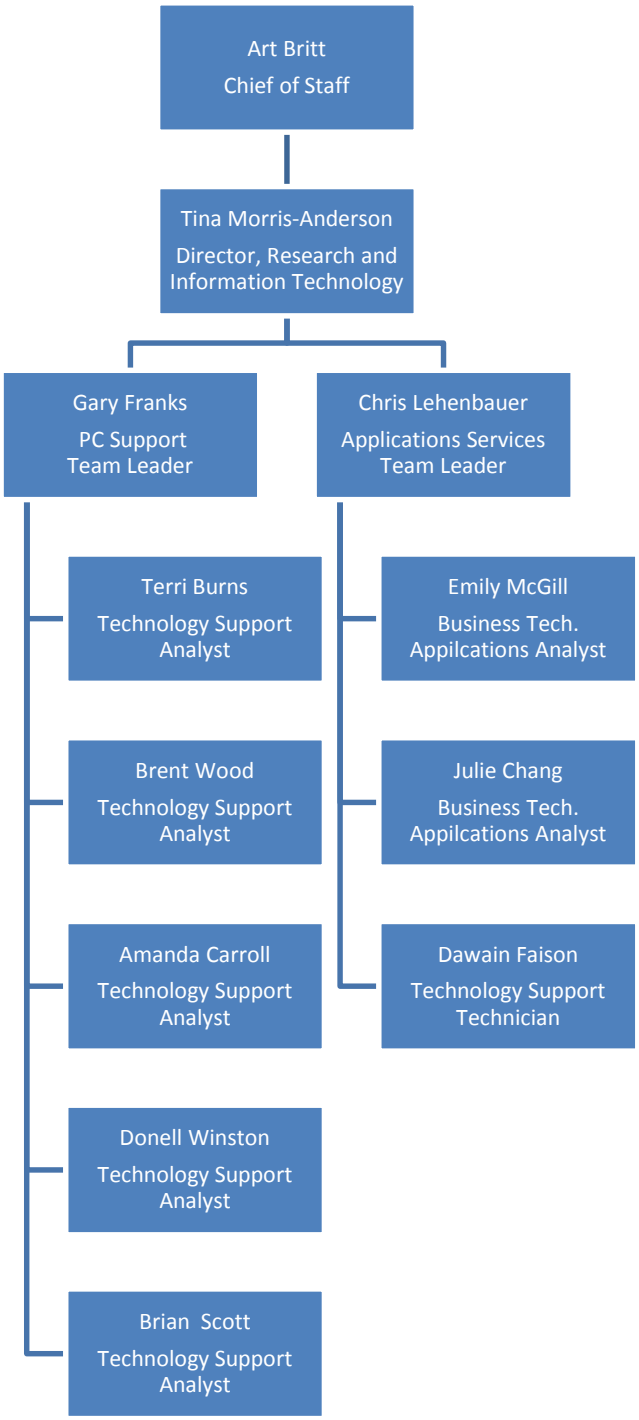
6.3.1.1 *Initiative 1 - Expansion of new Enterprise Content Management (ECM) System*

OnBase will be used to develop ECM solutions for additional bureaus in NCDOL. For example, a current project under way involves developing processing for OSH Collections for the NCDOL Budget and Management Division. This project is intended to serve as a prototype for the collection of all revenue streams in NCDOL. Discussions have also begun around smaller projects involving the NCDOL Human Resources Division.

6.3.1.2 *Initiative 2 – Implementation of Business Process Management (BPM) technology*

Several NCDOL business units have requirements for automated workflow solutions as well as case management. These business units include Human Resources, Legal Affairs, Employment Discrimination Bureau and Agricultural Safety and Health. OnBase will be used to develop these solutions.

7 NCDOL IT ORGANIZATIONAL STRUCTURE (REPORTING STRUCTURE)



8 ADDITIONAL AGENCY REQUIREMENTS

8.1 INNOVATIVE FUNDING SOLUTIONS

On June 16, 2014 NCDOL requested the assistance of OSBM in allowing us to use FY 2013-14 lapsed salaries to set up a new IT reserve in our Special Fund 23800. Our understanding is that this precedent has already been set whereby Community Colleges has such an ongoing arrangement with OSBM. Our conservative estimate of our lapse salaries at the end of June of 2014 was $600,000. OSBM has previously provided this same type of support in two NCDOL projects including:

1. The new Occupational Safety and Health system that came on-line in May of this year and is meeting all expectations ($1,180,000 allowed by OSBM was moved from budget code 13800 to 23800).
2. The new Hyland OnBase system that replaced the FileNet system which was no longer supported by IBM ($650,000 allowed by OSBM).

As NCDOL does not have the resource base provided to other state agencies which have been consolidated under ITS, our agency is fully responsible for providing all appropriate IT resources to support our public safety mission. We want to establish and build up the funding streams necessary to ensure all proper research and development activities that will provide effective operational and budgetary results. Best business practice requires a source of funding that is not subject to quarterly and/or annual reversion as is the case with any and all of our general funds.

8.2 OPPORTUNITIES FOR STATEWIDE INITIATIVES

NCDOL believes that the efficiencies gained from the implementation of the Hyland OnBase product would be of value to other state agencies as an enterprise-wide solution.

Licensing and Permitting – NCDOL also believes that the continued need for a licensing and permitting case management system exists not only within our department, but within other State agencies. We welcome the opportunity to collaborate with other State agencies to develop a plan for an enterprise-wide, scalable solution, particularly in the areas of inspections and case management.

Appendix A: List of Major IT Projects

This purpose of this section is to provide list of major IT projects and applications (>$250,000) that are in progress or planned in this biennium. The table below maps each project to overall goals and strategies.

Project Name	**Short Description**	**Related Goals and Objectives**	**Summary of Anticipated Benefits**	**Approximate Timeframe**
OSHA Express – Phase II	Replacement of federal IMIS System	Goal 2 Objective 2.5	Allow NCOSH to better fulfill state and federal regulatory responsibilities under both the federal OSHA Act and the OSH Act of North Carolina	Three months
OnBase ECM/BPM Workflow Automation	Accounts Receivable for OSH collections	Goal 3 Objective 3.1	More effective and timely collaboration between business units within the department and outside it.	Three months
Elevator and Amusement Device Systems	Automation of both inspection systems	Goal 2 Objectives 2.2 and 2.4	Automation of inspections resulting in better monitoring and reporting	Two years
Wage and Hour Case Management	Replacement of legacy systems with new automation	Goal 2 Objective 2.3	Increased data accuracy and case management efficiency; increased staff morale	Two years
Server Migration	Migration of NCDOL servers to ITS EDC	Goal 1 Objective 1.1	Increased data security	One Year

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